

Energy Bootcamp Details

Workshop: Monday, Oct 16 – Thursday, Oct 19, 2023

Optional ORNL Science Tours: Friday, Oct 20, 2023

Oak Ridge National Laboratory at 2350 Cherahala Blvd,
Knoxville, TN 37932



Monday, October 16, 2023 (held at Embassy Suites hotel)		
3:00pm – 3:30pm	Registration at Hotel (Embassy Suites West Knoxville - 9621 Parkside Drive Knoxville, Tennessee 37922 USA)	
3:30pm – 4:00pm	Introductions and Opening Remarks	
4:00pm – 5:30pm	Where to Start on Energy Management	This session discusses a systematic approach to industrial energy efficiency. Attendees will learn how to develop an energy management system from scratch, the key components of ISO 50001, and DOE's SEP 50001 program.
5:30pm – 6:30pm	Energy Management Gallery Walk	Award-winning energy management practices and energy efficiency projects will be showcased in the conference room. Attendees will learn more about them and participate in an engaging activity.
Tuesday, October 17, 2023		
7:45am	Buses Depart from Embassy Suites and Hilton Garden Inn hotel to ORNL's Hardin Valley Campus	
8:15am – 8:30am	Arriving at MDF and Badging	ORNL's Manufacturing Demonstration Facility Address: 2350 Cherahala Blvd., Knoxville, TN 37932
8:30am – 10:00am	Energy Basics and Understanding Your Utility Bills	This session covers all the basics about energy. Attendees will learn about energy unit conversions, utility bill analysis, energy benchmarking, and energy assessments.
10:00am – 10:30am	Break	
10:30am – 12:00pm	Motors, Pumps and Fans	This session will discuss both motor and motor-driven systems (pumps and fans) efficiency. Techniques to quantify energy-saving opportunities will be also discussed (including the use of the DOE MEASUR software tool).
12:00pm – 1:00pm	Lunch and Learn (VERIFI Overview)	
1:00pm – 3:00pm	Pump and Fan System Demo and Tour for MDF	

3:00pm – 3:15pm	Break	
3:15pm – 4:45pm	Steam Systems	This session provides an overview of DOE software tools on steam systems (MEASUR, steam system modeler tool, steam system scoping tool, etc.), training, and other resources to optimize steam system performance and save energy.
5:00pm	Adjourn for the Day	
Wednesday, October 18, 2023		
7:45am	Buses Depart from Embassy Suites and Hilton Garden Inn hotel to ORNL's Hardin Valley Campus	
8:15am – 8:30am	Arriving at MDF and Sign-in	ORNL's Manufacturing Demonstration Facility Address: 2350 Cherahala Blvd., Knoxville, TN 37932
8:30am – 10:00am	Compressed Air Systems	This session will discuss the pros and cons of different compressor configurations and control systems (with examples from the field) and common energy conservation measures.
10:00am – 10:30am	Break	
10:30am – 12:00pm	Process Heating Systems	During this session, the audience will learn practical tips on process heating systems maintenance, how to improve the energy efficiency of furnaces, and how to use DOE's MEASUR tool.
12:00pm – 1:00pm	Lunch and Learn (Equipment Demo)	
1:00pm – 3:00pm	Compressed Air and Thermal System Demo and Tour for Grid C	
3:00pm – 3:15pm	Break	
3:15pm – 4:45pm	Building Envelope, HVAC, and Lighting	Building envelope, space heating, cooling and lighting systems are essential for manufacturing plants. This presentation includes how to measure their energy performance, identify energy conservation opportunities, and quantify energy savings.
5:00pm	Adjourn for the Day	

Thursday, October 19, 2023

7:45am	Buses Depart from Embassy Suites and Hilton Garden Inn hotel to ORNL's Hardin Valley Campus	
8:15am – 8:30am	Arriving at MDF and Sign-in	ORNL's Manufacturing Demonstration Facility Address: 2350 Cherahala Blvd., Knoxville, TN 37932
08:30am – 10:00am	Process Cooling Systems	This session discusses the key equipment of process cooling systems, the latest technologies for energy efficiency, best practices, and some important technical resources.
10:00am – 10:30am	Break	
10:30am – 11:15am	Renewable Energy	Adopting renewable energy resources is a very effective way to reduce GHG emissions. Attendees will learn how to evaluate various renewable energy options.
11:15am – 12:00pm	Software Tools	This session will introduce some popular software tools: VERIFI, Plant Water Profiler, Waste to Energy, Scoping Tools
12:00pm – 1:00pm	Lunch and Learn (MEASUR Overview)	
1:00pm – 1:45pm	Water Savings	This session will discuss how to determine the true cost of water and identify water savings opportunities.
1:45pm – 1:50pm	Short Break (5 mins)	
1:50pm – 2:35pm	Employee Engagement and Making the Business Case	This session will discuss the strategies for engaging employees in energy management initiatives and obtaining the support and commitment of executives for energy efficiency projects.
2:35pm – 2:45pm	Short Break (10 mins)	
2:45pm – 3:30pm	Roadmapping GHG Emissions Reductions	This session shares tips on how to expand your current energy management program to address GHG emissions and begin developing a roadmap to success.
3:30pm – 4:45pm	Choose Your Own Solution Decarbonization Game	Put your skills and knowledge to the test by playing our Choose Your Own Solution game where you will try to help a company meet its decarbonization goals.
4:45pm – 5:00pm	Feedback Collection & Adjourn	

Friday, October 20, 2023 (Optional)

7:45am	Buses Depart from Hotel
7:45am – 8:30am	Bus Transfer to ORNL's Main Campus
8:30am – 9:15am	Tour of ORNL's Leadership Computing Facility - Supercomputers (Main Campus)
9:15am – 9:30am	Bus Transfer to Manhattan Project Nuclear Reactor Museum
9:30am – 10:15am	Tour of Manhattan Project Nuclear Reactor Museum (Main Campus)
10:15am – 10:45am	Bus Transfer to BTRIC
10:45am – 11:15am	Tour of BTRIC
11:30am	Workshop Adjourns; Buses Depart to Hotel